

WHAT IS CLAIMED IS:

1. 1. An apparatus for screening test compounds for an effect on a biochemical system, comprising:
 2. a substrate having at least one surface;
 3. at least two intersecting channels fabricated into said surface of said substrate, at least one of said at least two intersecting channels having at least one cross-sectional dimension in the range from about 0.1 to about 500 μm ;
 4. a source of a plurality of different test compounds fluidly connected to a first of said at least two intersecting channels;
 5. a source of at least one component of said biochemical system fluidly connected to a second of said at least two intersecting channels;
 6. a fluid direction system for flowing said at least one component within said second of said at least two intersecting channels and for introducing said different test compounds from said first to said second of said at least two intersecting channels;
 7. a cover mated with said surface; and
 8. a detection zone in said second channel for detecting an effect of said test compound on said biochemical system.